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BRAWNY ARMS START JUICE-FILLED GRAPES TOWARD THE CRIMEA'S WINE CELLARS

The vineyards of Massandra, next door to Yalta, slope to the Black Sea (Bulletin No. 2). Storage caves in the Krymskie mountains age the red and white wines of the southern-Russian peninsula.

Bulletin No. 1, November 26, 1951

Saudi Arabia Finishes "Iron Camel" Railroad

THE "iron camel" has come to Saudi Arabia. Locomotives, the iron horses of other lands, now gallop across the sand dunes of the Arab country on rails of steel. Today's desert song is a diesel-horn blast.

A brakeman's lantern, replacing Aladdin's lamp, recently waved a magical all-clear and the first train rumbled over the entire 350 miles of the new line. It had taken American engineers three years to lay the mechanized caravan route into the heart of the largest and driest peninsula on earth. The line links the Persian Gulf oil port of Dammam with King Al Saud's inland capital, Riyadh. Oil royalties paid for the all-diesel, single-track system, now virtually completed.

"Snow Fences" Hold Back the Sand

The Saudi Government Railroad is one line which does not have to buy ballast sand. Its chief problem is to control the drifting desert which constantly threatens to swallow the right of way.

To hold down the sand, drift baffles similar to snow fences have been erected. Coatings of crude oil have been sprayed on wandering dunes to form a thick surface crust. Huge sand spreaders, used by United States railroads to fight snow, have been found useful for plowing away sand in heavy dune areas.

From a seven-mile-long causeway and tanker wharf at Dammam, the railroad runs south through the oil fields, west across the Dahana, a 30-mile-wide belt of constantly drifting sand, then slightly north again to reach Riyadh. One chief stop is Hofuf, an Arabian Nights city of high encircling walls and narrow streets filled with sandalled, bearded men and veiled women.

With a million-plus square miles inhabited by an estimated 6,500,000 of the world's most water-conscious people, Saudi Arabia is still largely a primitive land of nomadic tribes (illustration, next page). But the flood of wealth pumped from its oil-rich sands has suddenly washed many of its people across centuries of technical progress.

Plan to Extend the Line

Arabs who had never seen a wheelbarrow now operate trucks, oil-refinery equipment, pipelines, and taxi fleets. Arab trainmen who never saw a locomotive before 1948 have taken over commuter runs in the oil fields.

Al Saud's ministers now are planning to extend the new railroad across the entire Arabian peninsula. This line would connect the Persian Gulf coast with the Red Sea, bypassing the sacred city of Mecca but reaching Medina, second-holiest city of the Moslem world, after turning north from the port of Jidda. Eventually, it is hoped, the locomotives will reach Ma'an in the Hashemite Kingdom of the Jordan.

Beyond Medina, Saudi Arabia would use the roadbed of another railway which once served the country. Built in 1908 to carry Moslem pil-

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EDWARD STEVENSON MURRAY

WORKMEN DRY FILBERTS (HAZELNUTS) ON THE BEACH AT GIRESUN, TURKEY, BEFORE SHIPPING THEM TO ISTANBUL AND WEST EUROPE

The popular Christmas nut grows best close to the ocean or near large inland bodies of water. This small port on the Black Sea (Bulletin No. 2) handles tons of Anatolian filberts at this time of year. Much of the United States supply is grown in the Pacific Northwest.

Bulletin No. 2, November 26, 1951

Black Sea Is Farthest-Inland Arm of Ocean

NEWS reports concerning Turkey's joining the North Atlantic Defense Alliance have turned attention to the Black Sea, a far-inland body of water whose shore line Turkey shares with the Soviet Union and two Russian satellites—Romania and Bulgaria.

The sea forms part of the division between Europe and Asia. Nowhere in the world does an arm of the ocean reach so far inland and manage to lock itself so completely by land. Its only outlet to the world's enveloping oceans is the Bosporus, a riverlike strait flowing past Istanbul. The Bosporus empties Black Sea waters into the small Sea of Marmara which itself is separated from the open ocean by the Dardanelles, the Aegean Sea, the Mediterranean Sea, and the Strait of Gibraltar.

1,000 Miles of Soviet Coast

The Black Sea is twice as far inland as North America's fresh-water Lake Superior. It is five times as big, covering an area of 165,000 square miles. The shore line extends more than 2,200 miles.

The Russian coast, north and east of the Black Sea, is more than a thousand miles long, by far the most extensive holding in the area. Part of this long shore line is formed by the sizable peninsula of the Soviet Crimea (illustration, cover). Important ports include Odessa, Nikolaev, Kherson, Sevastopol, Yalta (illustration, next page), Mariupol, Taganrog, Rostov, Novorossisk, and Batumi.

Turkey holds the second-largest section of Black Sea coast—roughly 800 miles. Its ports, excepting Istanbul, are minor; they include Trabzon, Giresun (illustration, inside cover), Samsun, and Zonguldak. Turkey controls the entrances and exits to the Black Sea through ownership of territory on both sides of the Bosporus and Dardanelles.

The two remaining land sections of the Black Sea area are the eastern shore of Romania and Bulgaria, a stretch of around 400 miles along the west coast of the sea. The leading ports of this coast are Romania's Constanta, and Bulgarian Burgas and Varna.

Site of Old and Modern History

The Black Sea has played a significant role in world affairs, economic and military, since Jason came this way in search of the Golden Fleece. Ancient Romans called the sea *Pontus Euxinus,* which means black sea. Heavy fogs make the waters look dark.

Colonists, pirates, traders, and warriors have had a share in the sea's fortunes. In different wars, varying international alignments of the Black Sea peoples have altered the course of events and history. During the Crimean War of the middle 1850's, Turkey, Great Britain, and France fought the Russians in this area. The long and bitter siege against the Russian base of Sevastopol in 1854-55 was repeated with new actors when the Germans made their battering attacks on that city from November, 1941, to July, 1942, during World War II.

In World War I, the then Turkish Empire under the sultan was joined

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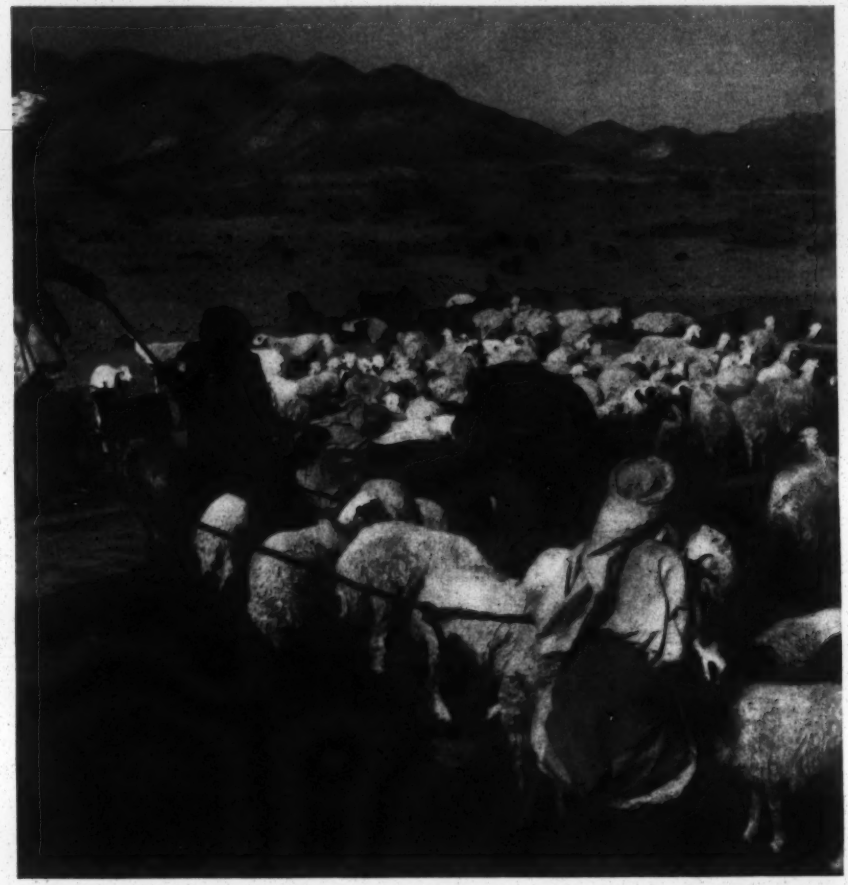
grims south from Damascus to the shrines of Hejaz Province, the old narrow-gauge line got no farther than Medina. Thousands of devotees rode this "Pilgrim's Railway" in the last decade of the dying Turkish Empire.

In World War I, the legendary Lawrence of Arabia turned his desert raiders upon the Turkish-owned railroad, tearing up the rails as far north as the gateway oasis of Ma'an. They have never been replaced.

NOTE: Saudi Arabia is shown on the National Geographic Society's map of Bible Lands and the Cradle of Western Civilization. Write the Society's headquarters, Washington 6, D. C., for a price list of maps.

For additional information, see "In Search of Arabia's Past" and "Saudi Arabia, Oil Kingdom" (20 color photographs), in the *National Geographic Magazine* for April, 1948; and "Guest in Saudi Arabia," October, 1945. *(Back issues of the Magazine may be obtained from the Society's headquarters at 60¢ a copy, 1946 to date; $1.00 from 1930 through 1945; and $2.00 from 1912 through 1929. Earlier issues, when available, at varied prices.)*

See also, in the GEOGRAPHIC SCHOOL BULLETINS, March 28, 1949, "Dhahran Brightens Drab Arabian Sands"; and "Arabs' Neutral Territories May Have Oil," November 22, 1948.



MAYNARD OWEN WILLIAMS

NEAR MECCA, BLACK-VEILED WOMEN HELP WATER FLOCKS AT ONE OF THE KING'S CEMENT WELLS

Bulletin No. 3, November 26, 1951

Auto Here to Stay; White House Stables Go

THE United States Senate apparently feels that the automobile is here to stay. Before adjourning, it passed a bill which abolished the White House stables, thus making the President utterly dependent upon his fleet of gas buggies.

Of course, the presidential stables have been non-existent since the days of William Howard Taft (illustration, next page). But still on the books was a law making it the Army Quartermaster General's job to provide suitable quarters for the number-one citizen's horses. The Senate action relieves the Q.M. of this "responsibility."

Cost of Stables Stirred Congress

The legislation recalls the days when Presidents rode down Pennsylvania Avenue in open carriages, drawn by matched pairs of spanking bays. The first White House stable was in a building several blocks east of the Executive Mansion, on a site now occupied by a shoe store. After brief use, the building became a school, in 1821, for poor children.

The cost of succeeding stables occasionally stirred congressional debate when appropriations were asked for building or repair. Objections were raised to $6,670 used by Van Buren and $14,016.19 by Grant. Grumblers were apparently looking the other way when the Pierce administration erected new stables at a cost of $20,000.

But while Congress, sometimes grudgingly, provided the President with housing for his horses and carriages, it did not supply animals or vehicles. Transportation was given his staff, but the Chief Executive had to pay for his own up until the time of the automobile.

One of the earliest horse-drawn vehicles associated with the White House was a $1,500 chariot used by Dolly Madison. In President Madison's day a $1,500 coach was the equivalent of a high-priced custom-built sports car today.

Presidents on Horseback

Personal presidential ownership of horses and carriages provided politicians and friends an opportunity for making expensive gifts, and several Presidents accepted matched pairs and fancy carriages. Andrew Johnson, however, felt such gifts improper. He declined "a magnificent carriage with horses and harness" bought for him by a group of New York merchants and bankers.

Chief show of White House horses and carriages was the inauguration parade. Some Presidents, however, attempted to keep the democratic touch. Jackson walked from his temporary quarters to the Capitol and rode from the ceremonies to the White House on horseback. William Henry Harrison rode a white horse to and from the Capitol.

Some of the more notable personal presidential horses and carriages were owned by Chester A. Arthur, who rode behind two perfectly matched mahogany bays; and Grover Cleveland, who had a stable of five horses, including three matched browns.

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with Germany and Bulgaria against Britain and her allies. The British launching of the campaign against Turkish Gallipoli, in 1915, to force an entrance to the Black Sea, turned out to be one of the great Allied disasters of the war.

In the Black Sea, as in the Mediterranean, the tides are negligible. Water is less salty in the former because of such large inflowing rivers as the Danube, Dniester, Dnepr, and Don. Ice blocks Odessa and other north-coast ports during January and February. Depths of 7,000 feet are reached by the Black Sea—compared to an average depth of only 53 feet for the Sea of Azov, the northerly extension which reaches far into the southern Soviet Union.

NOTE: The Black Sea is shown on the Society's map of Europe and the Near East. For further information on countries bordering the Black Sea, refer to the *Cumulative Index to the National Geographic Magazine* in your library.

UP FROM THE BLACK SEA AT YALTA, A SCENIC CRIMEAN ROAD TWISTS AND TURNS

At the top is Ai Petri, Holy Peter's Mount. Near by, in this "Florida" of the Soviet Union, stands Livadiya, the former tsarist palace where Roosevelt, Churchill, and Stalin met in February, 1945.

Bulletin No. 4, November 26, 1951

Banana Has Star Role in World Food Picture

THE autumn dock tie-up in New York, by halting shipping and cutting supplies, raised the price of bananas. This popular tropical food must be handled and shipped with care on a tight time schedule. Any long delay between plantation and grocer can cause almost complete spoilage.

At one time during the strike more than 55,000 "stems"—about 1,650 tons—of bananas faced ruin in ships waiting to be unloaded. Each stem weighs about 60 pounds and carries six to nine "hands" or clusters of ten to twenty individual bananas.

U. S. Delicacy Is Tropic "Roast Beef"

In the United States the banana is regarded as a delicacy, a "something extra" in the diet. It is a favorite between-meal snack for school children. It makes a nice dessert, plain or with cream, and banana cream pie is a popular pastry.

But in the tropics, where the banana is grown, it is a vegetable beef roast—the main dish of many a meal. The Gros Michele, or usual grocery-store variety, is eaten raw or cooked. Its cousin, the plantain, is always cooked and is a basic food.

The growing, transportation, distribution, and sale of bananas combine to make one of the world's leading food industries. About 90,000,000 stems go into world trade annually. Some 60,000,000 of these come to the United States.

During World War II imports of bananas were cut sharply by transportation shortages, the United States getting only 24,729,000 stems in 1943, and similar small amounts in other war years.

In England, banana import was stopped entirely during the war, and the fruit was rationed until this year. It is still scarce in Britain because of the dollar shortage. Also, many war-idled plantations in Jamaica, a British possession, went back to the jungle, and those continuing operation suffered from plant diseases.

Costa Rica and Honduras Lead Production

The banana plant originated in the tropical areas of southern Asia. It was introduced to the New World in 1516 by Friar Tomas de Berlanga, a missionary to the Indians. Now more than two-thirds of the commercial crop is grown in Central America, where in many areas banana growing is the chief industry.

Costa Rica and Honduras are currently the leading banana producing nations. Great numbers are also grown in Mexico, Guatemala, Panama, Brazil, Colombia, and Ecuador.

The big plantations of Central America, operated in large part by United States corporations, have gradually moved from the Caribbean coast to the Pacific side. Movement was forced by Panama disease, a soil-borne fungus rot. Only long flooding and silting will purify the soil, and movement to uninfected areas is considered more feasible than this.

Another threat to the industry is sigatoka, a leaf disease that can

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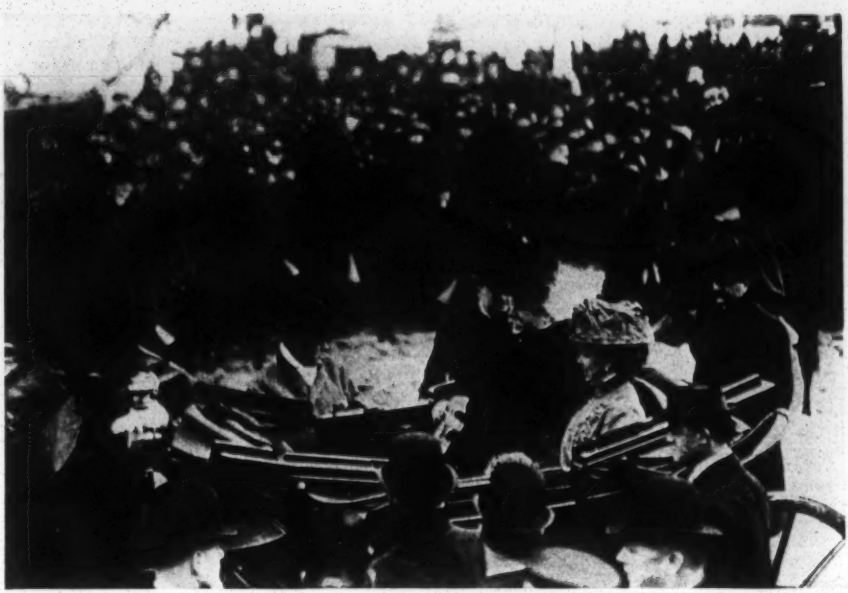
"Rough Rider" Theodore Roosevelt maintained the last extensive presidential stable. It included two pairs and six riding horses. He kept for White House use a landau, brougham, surrey, and small open trap.

President Taft brought the first automobile to the White House—a White Steamer. He had little use for the stables—except to shelter Pauline, the family cow.

Today's White House automobiles are not the personal property of the President. They are leased by the government from manufacturers, who supply the cars at nominal rates for the prestige involved.

NOTE: The White House is shown on the Society's Pocket Map of Central and Suburban Washington, D. C.

For further information, see "Washington: Home of the Nation's Great," in the *National Geographic Magazine* for June, 1947; "Wartime Washington," September, 1943; and "Washington, Home City and Show Place," June, 1937. Many other titles on various aspects of the nation's capital are listed in the *Cumulative Index to the National Geographic Magazine.*



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IN AN OPEN CARRIAGE, WILLIAM HOWARD TAFT RODE THROUGH A STORM ON THE DAY OF HIS INAUGURATION AS PRESIDENT—MARCH 4, 1909

National Geographic Society Releases Its Long-Awaited New Bird Book

Now being distributed to schools, libraries, and individuals all over the world is the National Geographic Society's newest publication, the 328-page bird book.

Stalking Birds with Color Camera, by Dr. Arthur A. Allen, is a sturdily bound, lavishly illustrated presentation of North America's birds. It contains 331 color pictures showing 266 species. Thirteen chapters describe different types of birds or various aspects of their study and photographing.

Dr. Allen, professor of ornithology at Cornell University and one of the nation's leading bird authorities, has pioneered in the field of high-speed photography. Many of his articles and pictures have appeared in the *National Geographic Magazine.*

Stalking Birds with Color Camera is available only from the National Geographic Society. $7.50 in United States and its possessions; elsewhere $7.75. Postpaid.

Bulletin No. 5, November 26, 1951

Antigua's Geography Both Helps and Hinders

BRITAIN'S Caribbean island of Antigua is rebuilding after last year's devastating hurricane. Plans are being made for an economic build-up, and for an extensive low-cost housing development for most of the thousands of people left homeless by 1950's vicious storms.

Antigua's position on the east-central curve of the Lesser Antilles put it not only in the path of Columbus (who discovered it in 1493, on his second voyage), but also in the path of the West Indies hurricanes which rival war in their destruction.

One-crop Economy

The economic project, financed by the government and aided by American technical help, is of interest to the Caribbean Commission as a possible model for improvements on other West Indies islands.

The undertaking includes extension of Antigua's one-crop system of agriculture—time-worn and soil-wearing—with its aim to raise the standard of living. For more than two centuries, sugar cane has been the island's one commercial crop; the processing of it into sugar and molasses, its industry. Sugar and molasses have been the main exports.

Although Antigua's climate appears to be ideal, with temperatures ranging from 70 to 82 the year around, there are always the hurricanes to be expected from August through October, and there is no adequate natural water supply.

There are no rivers. There is one small stream, and a few springs trickle here and there. As much water as possible is stored in cisterns. Because the island has little forest, droughts are frequent, in spite of an average rainfall of 45.6 inches a year. Cane fields on the level lands (illustration, next page) turn brown. Irrigation is a necessity for a paying crop. The island's population is more than 40,000.

Has Harbor Possibilities

Unlike so many islands of the West Indies, Antigua has no central mountain range and no dense tropical growth. Heights of over 1,000 feet are reached in the southwestern hills. Cactus, century plants, and bougainvillaea brighten the somewhat dusty landscape, but it does not present the traditional picture of a tropic isle.

Although there are a number of good bathing beaches, and palms fringe much of the coast in the expected pattern, most of the island's shore line is rocky. There are several good harbors, or, rather, harbors that would be good if dredged of shifting sand banks.

The largest is that of St. John's, on the north shore. Chief town of Antigua, St. John's is the seat of government of the Leeward Islands Colony, with a population of more than 10,000.

The century-old cathedral at St. John's, principal point of interest to visitors, is lined with pine as a protection against earthquakes.

Antigua's chief historic souvenir is the old naval base at English Harbour on the south coast. Efforts are now being made to turn the

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be controlled by extensive, and expensive, copper-sulphate spraying.

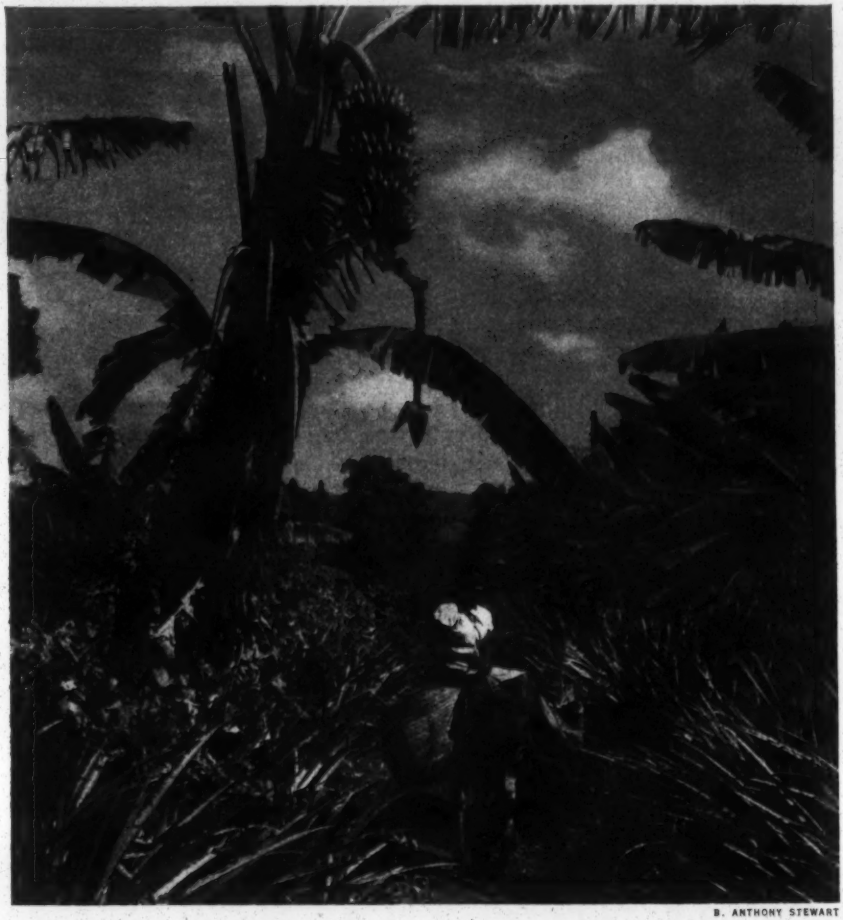
The banana plant is not a tree, although it grows as high as 30 feet (illustration, below). It is actually a huge herbaceous plant, whose "trunk" is a compact mass of overlapping leaves. Extremely fast growing, the plant bears about 14 months after planting.

After the stem reaches the right stage of greenness, it is cut and rushed to market via mulepack, plantation railway, and refrigerator ship. Upon arrival at market, bananas are ripened in special rooms kept at a temperature of about 68 degrees.

Tree-ripened bananas are not good to eat. Sweetness and flavor develop while the fruit continues to ripen after cutting.

NOTE: The principal banana-growing regions of the Western Hemisphere may be located on the Society's map of the Countries of the Caribbean.

For further information, see "Costa Rica, Land of the Banana," in the *National Geographic Magazine* for February, 1922.



B. ANTHONY STEWART

A GIANT BANANA PLANT RISES BESIDE A PATH IN THE DOMINICAN REPUBLIC; ITS SINGLE "STEM" OF FRUIT DANGLES A TAIL-LIKE "BLOSSOM"

harbor, with the dockyard where Admiral Nelson refitted his fleet, into a permanent asset as a Caribbean yachting center. A cruise has been planned for next summer to end there.

Several other notables of the British Navy may be said to haunt the island. Rodney and Hood sailed their ships into the naval base, and there a house was built for William IV when, as Duke of Clarence, he served a tour of naval duty in the Leewards.

A postwar enterprise already in operation, taking advantage of Antigua's climate and scenic beauty, is the American-owned Mill Reef Club. More than a thousand acres along the island's shores are being developed as a community of homes, grouped around a clubhouse. Members are applying American methods to farming and cattle-raising.

NOTE: Antigua may be located on the Society's map of Countries of the Caribbean. See also, in the *National Geographic Magazine* for January, 1948, "*Carib* Cruises the West Indies"; "British West Indian Interlude," January, 1941; "Crossroads of the Caribbean," September, 1937; and, in the GEOGRAPHIC SCHOOL BULLETINS, December 5, 1949, "West Indies 'Dominion' Nearer Realization."

FIELDS OF SUGAR CANE CHECK THE LANDSCAPE AND SMALL ISLANDS OF CORAL FORMATION DOT THE HARBOR OF ST. JOHN'S, CAPITAL OF BRITAIN'S LEEWARD ISLANDS COLONY

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